On creation of a global human rights disabilities media watch environment

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Outline

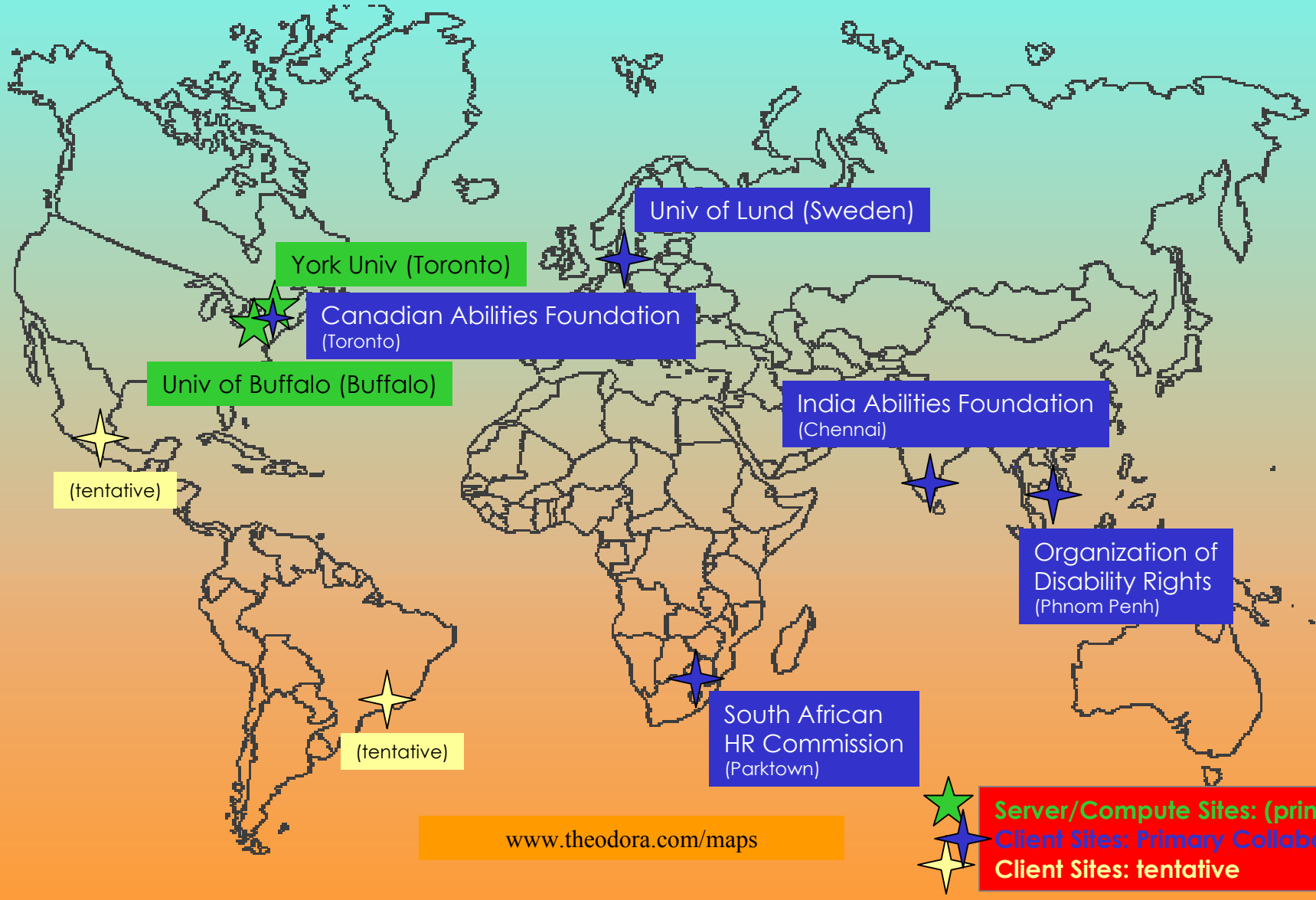
- Introduction to the topic
- Who is involved
- Statement of the problem
- Basic requirements
- Conclusion

Level of participation

- Cyberinfrastructure in HR abuse monitoring
  - Primarily disabilities oriented but applicable to many similar disciplines
- HR Grid: A consumer of the technology
  - "Early adopter"
- Multi-institutional project
  - Similar to most scientific collaborations
  - Greater needs in developing a common *spoken* language

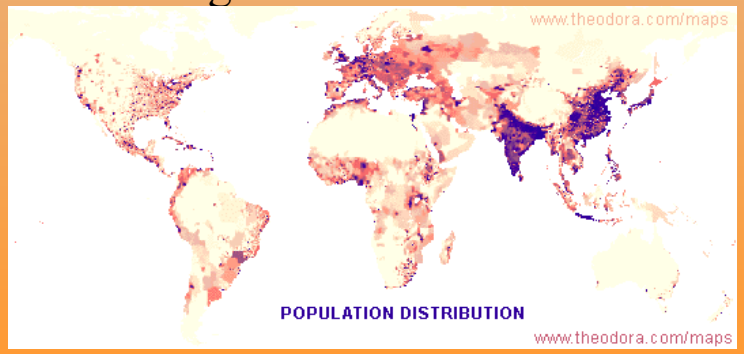
- New project in the Design phase. Some aspects are currently funded
  - York Univ/Univ at Buffalo
    - **$1.2M SIDA (swedish international development agency/5 staff/$300K equipment**

Project Members



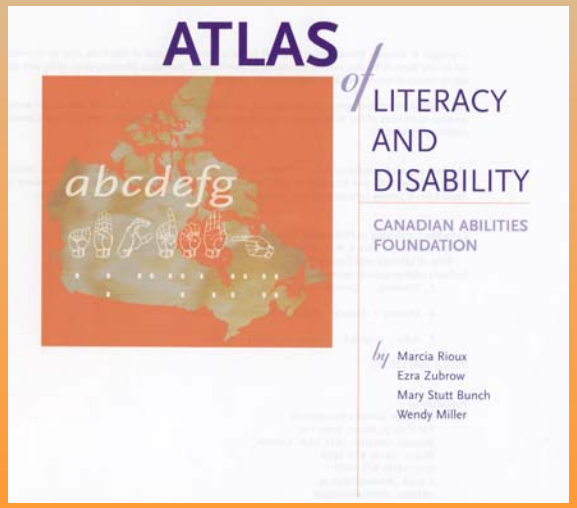
The Stated Problem/Solution

- The Stated Problem
  - 600 million people have some form of disability
    - Results in barriers to full participation in society
    - Inadequate recognition of needs for, and barriers to, equal rights
    - Perpetuation of judicial/functional/social isolation
- The Stated Solution
  - Interpretable as a cyberinfrastructure
    - Strengthen monitoring of HR of people with disabilities (1998/31)
    - Resulting formation of the Disability Rights Promotion International (*DRPI*)
    - Experts from all world regions examined measures to strengthen efforts…to support the monitoring of a broad range of media



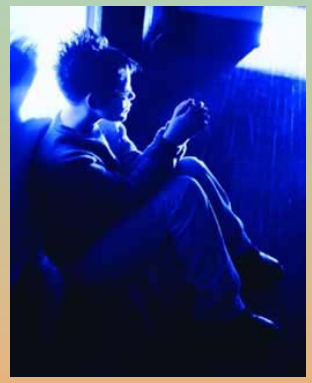
Supported groups

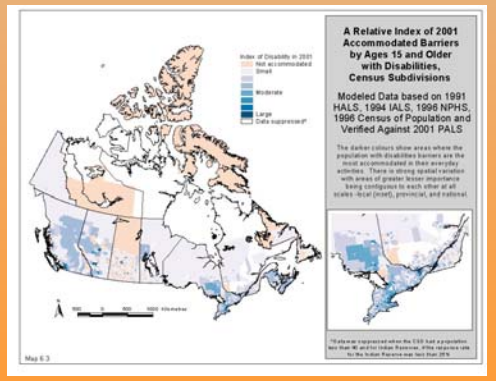
- Governmental
  - Policy creation – health care (and others)
    - Long term trends & statistics, data-fusion, intervention
    - (read access)
- Research (*Project members*)
  - Data generation information creation
    - Selection/acquisition/assimilation of relevant media
    - Fact-checking, local hot-spots, (meta)data-, storage-structures
    - Statistics, environment facilitation, data-mining, R&D
    - (read/write access)
- Education (any)
    - synchronous access to information at class time
    - *Talking-head* collaborations
    - (a)synchronous access by students



Application areas

- Disability Rights
  - A product of social, economic, and political conditions and the discrimination attached to them
- Biomedical disability
  - A consequence of a medical condition/biological abnormality
    - **Mental Health care/general health care**
- Functional disability
  - A restriction in functioning in one's environment
    - **Building codes, city planning, etc.**
- Social disability
  - A barrier to participation in social/economic institutions
- Disabilities are Imposed/Accidental/Nature
  - War/strife/epidemic





Basic Requirements

- Collaboration
  - Enable "immersive" real-time collaboration (AG)
  - Address several modalities !
    - **Esp (blindness, mobility, hearing impairments)**
  - Address transcoding (*must* manage the digital divide)

- Data Collection/Storage
  - All data accessible within collaborative environment
  - Developments in selection of data (what constitutes relevant data?)
  - Collection of data (video, audio, photos, text, law cases)
    - **Many sites concurrently**
  - Storage/archive of the raw data

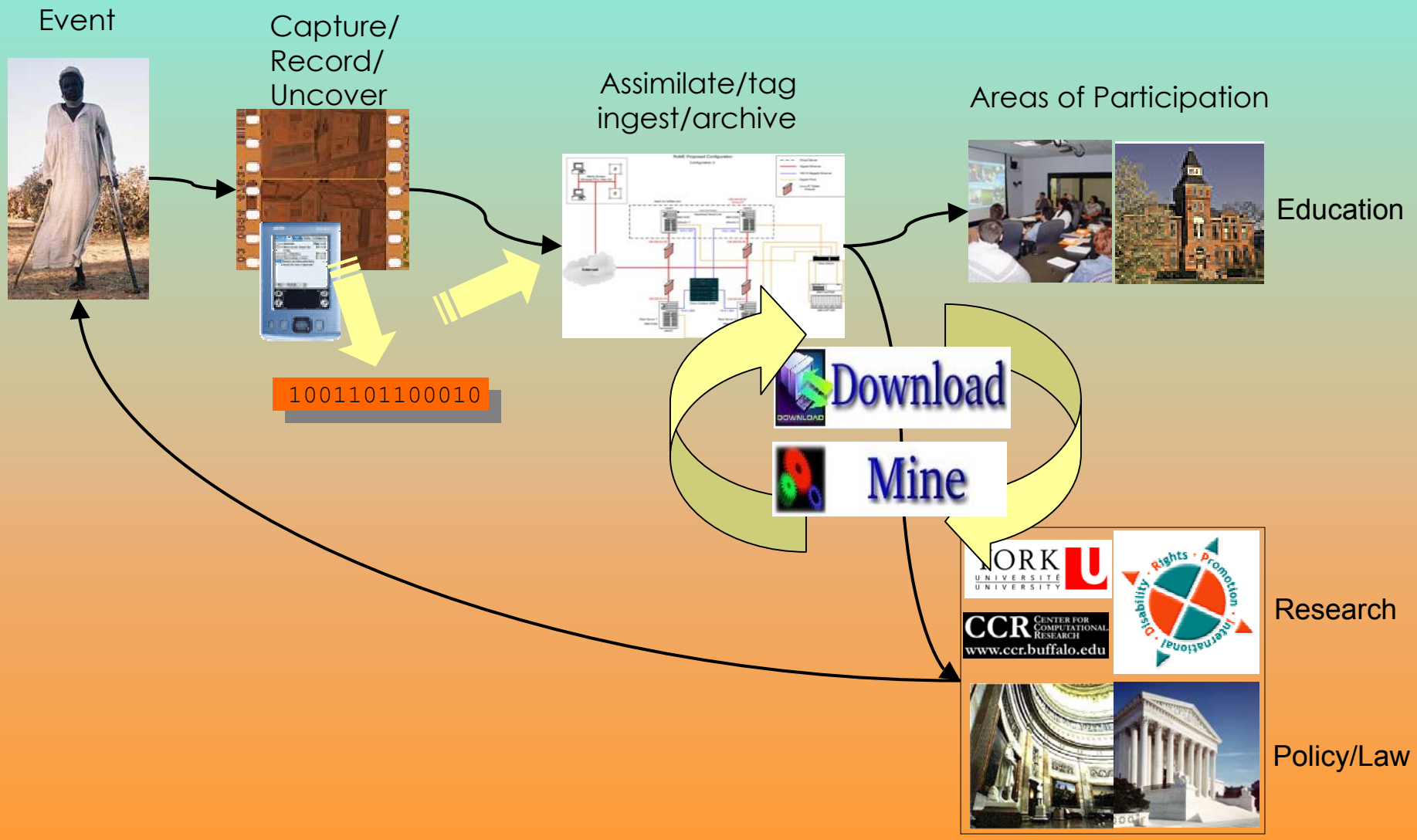
- Knowledge Creation
  - Data-fusion/simulation – E.g., migration/famine/medical predictions

- Not all Supported Groups require equal level of access

Solution: User Requirements

- Project Members: Basic Needs
  - Simplified access to aggregate resources
    - SSO
    - Single location for SW/Updates/Templates
    - Simplified download/upload of information
  - Access Grid superstructure
    - Content & knowledge creation, decision making
  - Lots of compute nodes
    - Mining, fusion, transcoding, simulation (some parallel)
  - Lots of storage
    - Database – projected storage of 10 TB/yr (video)
  - Support for many display modes
    - Tiled-wall displays, multi-projector displays, workstations, other
    - Account for networking differences (digital divide)

Typical Workflow



Typical Media to Store

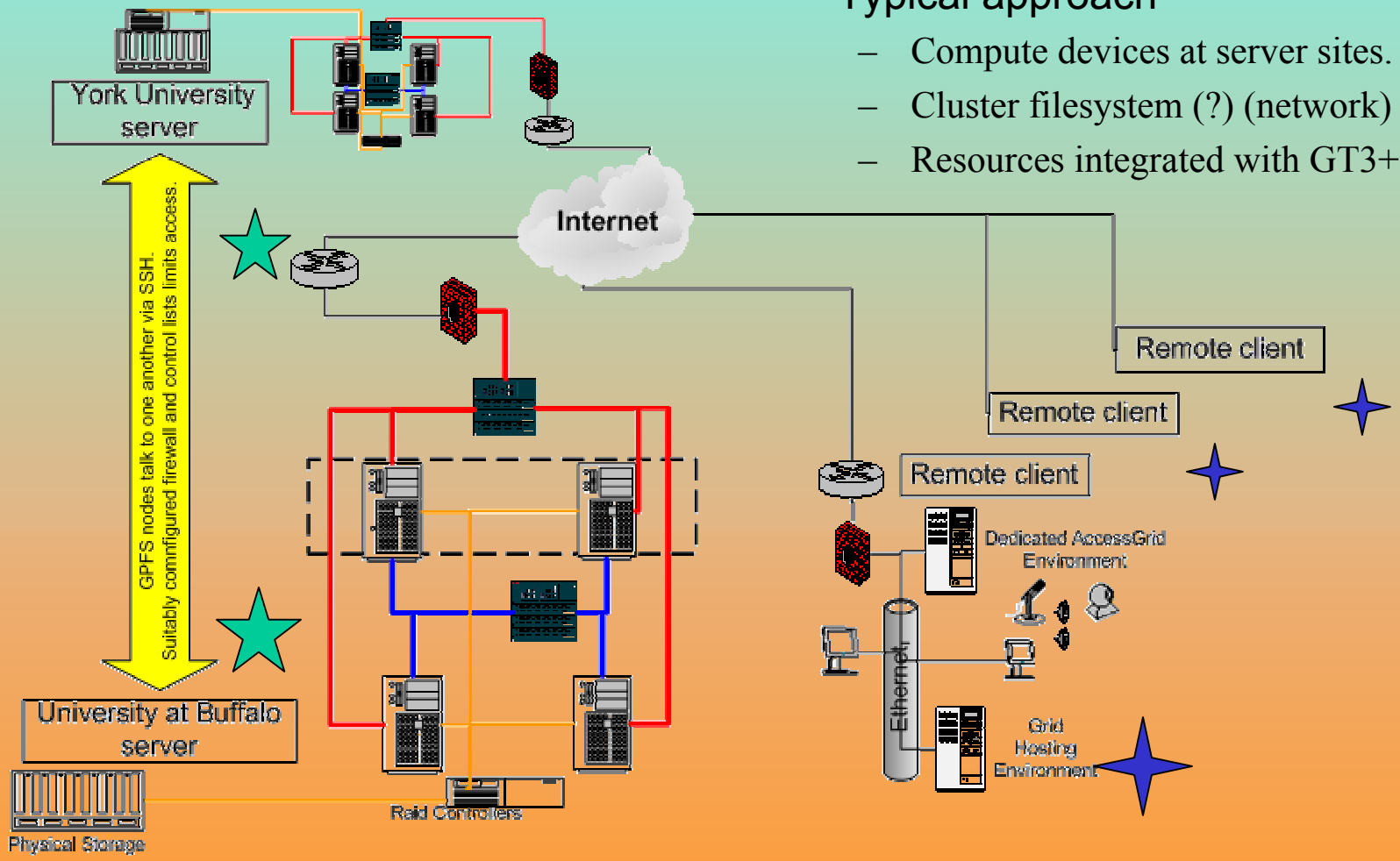
- Need a seamless integration of media types
  - Video
    - SDI, AVI, MPEG*n*, etc*
  - Audio
    - Typically 44 and 48 KHz
  - Photos/Figures
    - GIF, JPEG, TIFF
  - Law cases, text reports
    - Text
  - Etc

*trade-offs between level of compression and availability of tools/expertise at the client

- A simple collection and storage process is insufficient
  - Need cross-media machine search capability
    - Theoretical, CS areas of research

Solution: Physical Layout

- Potential configuration
- Typical approach
  - Compute devices at server sites.
  - Cluster filesystem (?) (network)
  - Resources integrated with GT3+



Conclusions

- We are beginning the process of designing a media watch environment application
- The basic team is in place
- Broad requirements are nearly completed
  - Architecture planning is scheduled for Oct
- System to be build around the AG/GT3+
- Attempting to secure FTEs/$$/etc to move forward

Questions ?

“Ultimately the Grid must be evaluated in terms of the applications, business value, and scientific results that it delivers, not its architecture.“
I. Foster, Computer Business Review Online, 2004.